

WHAT IS CLAIMED IS:

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1. An ink jet printing method which comprises:
directly forming an image on a printing medium on
the basis of signals of image data; and
fixing the image to produce a printed matter,
wherein said image formation is carried out by an
ink jet system of ejecting an oily ink by an electrostatic
field.

2. The ink jet printing method according to claim
1, further comprising cleaning an ink jet head, said
cleaning step comprising:

immersing said ink jet head in a cleaning solution;
and

applying voltage to said ink jet head.

3. The ink jet printing method according to claim
1, further comprising, when a malfunction happens, either
or both of stopping the image formation and eliminating a
cause of the malfunction.

4. The ink jet printing method according to claim
3, wherein at least one of the following steps is
performed:

removing dusts on the surface of said printing
medium either of both of before and during printing onto
said printing medium; and

cleaning said ink jet head at least after printing is finished.

5. The ink jet printing method according to claim 1, wherein said oily ink is a dispersion comprising at least:

a nonaqueous solvent having an intrinsic electrical resistance of $10^9 \Omega \cdot \text{cm}$ or more and a dielectric constant of 3.5 or less; and

colored particles dispersed in said solvent.

6. An ink jet printing apparatus comprising:

an image-forming member which directly forms an image on a printing medium on the basis of signals of image data; and

an image-fixing member which fixes the formed image to obtain a printed matter,

wherein said image-forming member comprises an ink jet imaging unit comprising an ink jet head for ejecting an oily ink by an electrostatic field.

7. The ink jet printing apparatus according to claim 6, further comprising a cleaning member which cleans said ink jet head.

8. The ink jet printing apparatus according to claim 7, wherein said cleaning member performs cleaning by applying voltage to the ink jet head which is immersed in a cleaning solution.

9. The ink jet printing apparatus according to claim 6, further comprising at least one of a malfunction detecting member and a malfunctioning cause eliminating member,

wherein according to an output from said malfunction detecting member, the image formation is temporarily stopped or said malfunctioning cause eliminating member operates.

10. The ink jet printing apparatus according to claim 9, wherein said malfunction detecting member is a unit which detects adhesion of a foreign matter on said ink jet head.

11. The ink jet printing apparatus according to claim 9, wherein said malfunction detecting member is a unit which detects at least one of a dust in said ink jet printing apparatus and a dust on said printing medium.

12. The ink jet printing apparatus according to claim 9, wherein said malfunction detecting member detects vibration of at least one of said ink jet printing apparatus and said ink jet head.

13. The ink jet printing apparatus according to claim 6, wherein said oily ink is a dispersion comprising at least:

a nonaqueous solvent having an intrinsic electrical resistance of $10^9 \Omega \cdot \text{cm}$ or more and a dielectric constant of 3.5 or less; and

colored particles dispersed in said solvent.

14. The ink jet printing apparatus according to claim 6, further comprising a dust-removing member which removes a dust on the surface of said printing medium either or both of before and during printing on the printing medium.

15. The ink jet printing apparatus according to claim 6, further comprising a counter drum which is arranged at a position opposed to said ink jet head via said printing medium and is rotatable so as to move said printing medium upon the image formation.

16. The ink jet printing apparatus according to claim 15, wherein said ink jet head has a single channel head or multi-channel head and is movable in an axis direction of said counter drum.

17. The ink jet printing apparatus according to claim 6, further comprising at least one pair of capstan rollers for conveying said printing medium upon the image formation with being put therebetween.

18. The ink jet printing apparatus according to claim 17, wherein said ink jet head has a single channel head or multi-channel head and is movable in an orthogonal

direction to said conveyance direction of the printing medium.

19. The ink jet printing apparatus according to claim 15 or 17, wherein said ink jet head has a full line head having a length substantially the same as the width of said printing medium.

20. The ink jet printing apparatus according to claim 6, wherein said ink jet imaging unit further comprises an ink feeding member which feeds said oily ink to said ink jet head.

21. The ink jet printing apparatus according to claim 20, wherein said ink jet imaging unit further comprises an ink recovering member which recovers said oily ink from said ink jet head to circulate said oily ink.

22. The ink jet printing apparatus according to claim 6, wherein said ink jet imaging unit further comprising an ink tank for storing said oily ink and a stirring member which stirs said oily ink in said ink tank.

23. The ink jet printing apparatus according to claim 6, wherein said ink jet imaging unit further comprises an ink temperature controller for controlling the temperature of said oily ink in the ink tank.

24. The ink jet printing apparatus according to claim 6, wherein said ink jet imaging unit further

comprises an ink concentration controller for controlling
the concentration of said oily ink.

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